

# Missouri Department of Natural Resources



## PUBLIC NOTICE

### DRAFT MISSOURI STATE OPERATING PERMIT

DATE: June 9, 2006

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, St. Louis Regional Office, 7545 South Lindbergh, Suite 210, St. Louis, Missouri 63125, ATTN: Thomas M. Siegel, Chief, Permits and Engineering. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by July 9, 2006 or received in our office by 5:00 p.m. on July 12, 2006. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.mo.gov/env/wpp/wpcp-pn.htm>, or at the Department of Natural Resources, St. Louis Regional Office, 7545 S. Lindbergh, Suite 210, St. Louis, Missouri 63125, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: June 9, 2006  
Permit Number: MO-0132683  
St. Louis Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
Sandy Branch Subdivision Jarvis Road Hillsboro, MO 63050	Jefferson County Public Sewer District P.O. Box 100 Hillsboro, MO 63050
RECEIVING STREAM & LEGAL DESCRIPTION	TYPE OF DISCHARGE
Sandy Branch (U) NW ¼, NW ¼, Sec. 24, T41N, R4E, Jefferson County	Domestic (new)

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**  
MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0132683

Owner: Jefferson County Public Sewer District  
Address: P.O. Box 100, Hillsboro, MO 63050

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Sandy Branch Subdivision WWTF  
Facility Address: Jarvis Road, Hillsboro, MO 63050

Legal Description: NW 1/4, NW 1/4, Sec. 24, T41N, R4E, Jefferson County  
Latitude/Longitude: +38.27603/-90.53297

Receiving Stream: Sandy Branch (U)  
First Classified Stream and ID: Sandy Creek (C)(ID #1720)  
USGS Basin & Sub-watershed No.: 07140101-150005

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

Outfall #001 – SUBP - SIC #4952  
Delta DF50 pretreatment/STEP/EQ dosing tank/drip irrigation system  
Design population equivalent is 89.  
Design flow is 6600 gallons/day.  
Design sludge production is 1.3 dry tons/year.

See page 2 for land disposal information.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

\_\_\_\_\_  
Effective Date

\_\_\_\_\_  
Doyle Childers, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

\_\_\_\_\_  
Expiration Date

\_\_\_\_\_  
Mike Struckhoff, Director, St. Louis Regional Office

FACILITY DESCRIPTION (continued)

Outfall #001 – Land Application System

Irrigation volume per year: 2,409,000 gallons  
Primary irrigation area: 0.61 acre, (26,640 square feet)  
Reserve irrigation area: same  
Application rates per acre: 145 inches/year  
Field slopes: 5 percent  
Equipment type: Drip irrigation  
Vegetation: Combination warm/cold season grasses  
Application rate is based on: Soil characteristics

Outfall #002 – Groundwater Monitoring Well

DRAFT

PAGE NUMBER 2 of 5						
PERMIT NUMBER MO-0132683						
<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
(OUTFALL NUMBER AND EFFLUENT PARAMETERS)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001 – Water to Irrigation Field</u>						
Total Kjeldahl Nitrogen as N	mg/L	*		*	Once/quarter**	Grab
Nitrate plus Nitrite as N	mg/L	*		*	Once/quarter**	Grab
pH	SU	*		*	Once/quarter**	Grab
<u>Outfall #002 – All Groundwater Monitoring Wells (Note 1)</u>						
Total Kjeldahl Nitrogen as N	mg/L	*		*	Once/quarter**	Grab
Nitrate plus Nitrite as N	mg/L	10.0		10.0	Once/quarter**	Grab
pH	SU	***		***	Once/quarter**	Grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)**

- \* Monitoring requirement only.
- \*\* Sample once per quarter in the months of January, April, July, and October.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0 to 9.0 pH units

Note 1 – Groundwater monitoring shall be collected at groundwater monitoring locations to be determined before this permit is finally issued. The Permittee shall submit a groundwater monitoring plan and have it approved by the Division of Geology and Land Survey before operation of the disposal field can be approved.

3. SPECIAL CONDITIONS

1. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - a. Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - b. Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - c. Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - d. Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - e. There shall be no significant human health hazard from incidental contact with the water
  - f. There shall be no acute toxicity to livestock or wildlife watering;
  - g. Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - h. Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
2. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - a. Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
  - b. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
  - c. controls any pollutant not limited in the permit.
  - d. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list. The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
3. Changes in Discharges of Toxic Substances. The permittee shall notify the Director as soon as it knows or has reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
    - (1) One hundred micrograms per liter (100 µg/L);
    - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
    - (4) The level established in Part A of the permit by the Director.
  - b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

D. SPECIAL CONDITIONS (Continued)

4. Prior to wastewater treatment facility or irrigation field operation, the permittee shall develop an irrigation field management plan. This plan shall be submitted to the department prior to issuance of this permit. Once approved the plan shall be implemented. This plan shall contain the following elements:
  - a. Location and monitoring frequency of lysimeters to monitor soil water for nitrate nitrogen. This will aid in determining nutrient movement through the soil, serve as an early warning system for potential nitrate nitrogen break through into surface water or groundwater, and will aid in resizing the irrigation field for this and subsequent phases.
  - b. Location and monitoring frequency of piezometers. This will aid in determining the groundwater level, serve as an early warning system for potential groundwater mounding problems, and will aid in resizing the irrigation field for this and subsequent phases.
  - c. Application rates and schedules for soil amendments based on soil tests for both the warm season and cool season grass plots.
  - d. Initial and annual soil testing of phosphorus and nitrogen in the soil layer below the bottom of the root zone down to the water saturation level for the different soil types in both the warm season and cool season grass plots. This will aid in determining nitrogen movement through the soil, serve as an early warning system for nitrogen break through into surface water or groundwater, and will aid in resizing the irrigation field for this and subsequent phases.
  - e. Seasonal irrigation schedules for both the warm season and cool season grass plots, including allowances for field drying prior to harvest and allowances for hay harvesting, including mowing, conditioning, hay drying, raking, baling, and bale removal.
  - f. Periodic (minimum once each business day) measurement of precipitation.
  - g. Measurement of weight of both warm season and cool season hay removed annually with analysis (or estimate if more appropriate) of nitrogen, phosphorus, and potassium (as well as minor nutrients if appropriate) removed from the irrigation plots in the hay.
  - h. Annual report submitted to the department that analyzes trends in nitrogen movement through the soil, soil water, groundwater, and surface water and includes a material balance for water, phosphorus, and nitrogen considering wastewater irrigated, precipitation, soil water and nutrients stored in the root zone, soil water and nutrients stored below the root zone, groundwater movement, surface water movement, evaporation, transpiration, and hay harvested.

Date of Fact Sheet: April 4, 2006

Date of Public Notice: June 9, 2006

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT  
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0132683

FACILITY NAME: Sandy Branch Subdivision WWTF

OWNER NAME: Jefferson County Public Sewer District

LOCATION: NW ¼, NW ¼, Sec. 24, T41N, R4E, Jefferson County:

RECEIVING STREAM: Sandy Branch (U)

FACILITY CONTACT PERSON: Aaron Held TELEPHONE: (636) 797-3618

FACILITY DESCRIPTION AND RATIONALE

The proposed system is a no-discharge centralized sub-surface disposal system which will serve 24 residences in the proposed development. Wastewater from each residence will first be treated with an individual treatment unit to consist of an aeration chamber, and a settlement chamber, and a pump chamber. The water will then be pumped through 2-inch diameter PVC low-pressure sewer lines to a 3000-gallon dosing tank. The dosing tank will then pump to the sub-surface disposal field which will consist of 16 zones with 833 lineal feet of drip irrigation lines in each zone. A groundwater monitoring well will be installed at the lower end of the disposal field and samples taken quarterly to test for nitrogen in the groundwater.

This permit will be issued for a period of five years.



# LOCATION MAP

